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Quality Engineering Test Report

SERIES: SD-50A 25W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE:
A. SD-50A-5 5V / 10A
B. SD-50A-12 12V / 4.2A
C. SD-50A-24 24V / 2.1A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P: TESTING SPEC: 9.2~18VDC O/P:FULL LOAD	A:9.2~18VDC	P
2	LINE REGULATION	I/P: 9.2~18VDC SPEC: A:±0.5% O/P: FULL LOAD B:±0.3% C:±0.2%	A:-0.12%~+0% B: -0%~+0% C: -0%~+0%	P
3	LOAD REGULATION	I/P: 12VDC SPEC: A:±0.5% O/P: MIN. TO FULL LOAD B:±0.3% C:±0.2%	A:-0.24%~+0% B: -0%~+0% C: -0.03%~+0%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P: 9.2~18VDC SPEC: A:±2% O/P: MIN. TO FULL LOAD B:±1% C:±1%	A:-0.24%~+0% B: -0 %~+0% C:-0.03%~+0%	P
5	RIPPLE&NOISE	I/P: 12VDC SPEC: A:100mVp-p O/P: FULL LOAD B:120mVp-p C:150mVp-p	A:8mV B:4mV C:9mV	P
6	DC INPUT CURRENT	I/P: 12VDC SPEC: 7A O/P:FULL LOAD	A:5.88A	P
7	MAX. INRUSH CURRENT	I/P: 12VDC SPEC: NONE O/P:FULL LOAD	A:23.3A	P
8	O/P VOLTAGE ADJ. RANGE	I/P: 12VDC SPEC: A:4.5~5.5V O/P: MIN. LOAD B:11~16V C:23~30V	A:4.43~6.21V B:9.69~16.36V C:19.76~33.41V	P
9	SET UP TIME	I/P: 12VDC SPEC: 2.5S O/P:FULL LOAD	A:430.4mS	P
10	EFFICIENCY	I/P: 12VDC SPEC: A:70% O/P: FULL LOAD B:72% C:74%	A:70% B:74% C:77%	P
11	OVER LOAD PROTECTION	I/P: 12VDC SPEC: 105%~150% O/P: TESTING	A:120% B:126% C:105.2%	P
12	OVER VOLTAGE PROTECTION	I/P: 12VDC SPEC: A:5.75V~6.75V O/P: TESTING B:16.8V~20V C:31.5V~37.5V	A:6.16V B:18.52V C:35.64V	P
13	INSULATION RESISTANCE	SPEC: I/P-O/P 500VDC/100M Ohms MIN. I/P-FG 500VDC/100M Ohms MIN. O/P-FG 500VDC/100M Ohms MIN.	A: I/P-O/P:>100M Ohms I/P-FG :>100M Ohms O/P-FG :>100M Ohms	P
14	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 1500VAC/ 1 min (10mA CUT-OFF) I/P- FG: 1500VAC/ 1 min (10mA CUT-OFF) O/P- FG: 500VAC/ 1 min (10mA CUT-OFF)	A: I/P-O/P:<1.9mA I/P-FG:<2.1mA O/P-FG:<3.92mA	P
15	BURN-IN TEST	I/P : 12VDC O/P:FULL LOAD TA : 25 ℃ BURN-IN DURATION : 4 hrs	NON BREAK	P
16	ENVIRONMENT TEST (SAMPLE A:)	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:12VDC O/P:FULL LOAD AMBIENT TEMPERATURE:37.40℃	AFTER 3 hrs NON BREAK	P

NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>17</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td>A: I/P : 12VDC AFTER 4 hrs BURN-IN
O/P : FULL LOAD TA : 24.9°C
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>Q1</td><td>MAIN TRANSISTOR</td><td>87.0°C</td><td>62.1°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER</td><td>82.6°C</td><td>57.7°C</td></tr>
<tr><td>D11</td><td>O/P DIODE</td><td>74.3°C</td><td>49.4°C</td></tr>
<tr><td>C34</td><td>O/P FILTER CAPACITOR</td><td>61.7°C</td><td>36.8°C</td></tr>
<tr><td>L1</td><td>O/P CHOCK</td><td>70.1°C</td><td>45.2°C</td></tr>
<tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>59.8°C</td><td>34.9°C</td></tr>
</table></td><td></td><td>P</td></tr>
<tr><td>18</td><td>LIFE CYCLE</td><td colspan="2">A: SUPPOSE C34 IS THE MOST CRITICAL COMPONENT
I/P : 12VDC O/P : FULL LOAD Ta : 25°C Tc34 : 61.8°C Life: 39946 hrs
I/P : 12VDC O/P : FULL LOAD Ta : 37.42°C Tc34 : 78.5°C Life: 12553 hrs</td><td>P</td></tr>
<tr><td>19</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">A: FUSE : F 15A/250V G PH UL
INPUT DIODE : 1N5401
LINE FILTER : TF-096A EE-25
TRANSFOMER : MT TF-321-R1 EI-28
POWER SWITCHER : 2SK2049 TO-220
OUTPUT DIODE : CTB-34M TO-3P
OUTPUT CAPACITOR : 2200uF/16V(v) 105°C HL
INPUT CAPACITOR : 220uF/100V(v) 105°C HL
P.C.B : SD-50 FR-4 2 OZ DS</td></tr>
<tr><th>DATE</th><th>SAMPLE</th><th>TEST RESULT</th><th>TEST</th><th>APPROVAL</th></tr>
<tr><td>980422</td><td>SD-50A</td><td>PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
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PREVIOUS